OX100/OX102
Limiting-current type
Oxygen Analyzer
### A Compact Environmental Oxygen Analyzer with the usual Yokogawa reliability

**MODEL OX100**

- **General-Purpose Oxygen Analyzer**
  - Spans 1000 ppm to 25%
  - Autoranging in two ranges, 0-1000 ppm and 0-25%
  - High Alarm or Low Alarm (depends on specification)

**MODEL OX102**

- **Enhanced Oxygen Analyzer**
  - Low range 0 to 100 ppm
  - Autoranging in four ranges from 0-100 ppm to 0-25%
  - High and Low Alarms

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**Applications**

- *N₂* reflow furnaces
- Semiconductor maker environmental monitoring
- ppm-level O₂ measurement
- Monitoring purity of *N₂*, Ar separated from air
- Monitoring for deficiency of O₂

**Usage cautions**

- Box is to be filled with inert gas
- If organic solvents in box, use sampling unit

**Measurement cautions**

- 1. Sensor should not be exposed to silicone vapor, silicon gas.
- 2. Corrosive or flammable gases, halogens, Freon, or organic solvents may adversely affect sensor.

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**Main applications**

- Globe box (processing crystal parts)
- Globe box (in research lab.)
- N₂ reflow furnace / auto soldering
- Clean room
- Aging machine
- Monitoring for deficiency of O₂
- Foodstuffs

**OX100**

- Development lab., globe box
- Clean room for testing, environment, fermentation, biochemical
- Continuous monitoring of gas flow in food packing
- Mging machine

**OX102**

- Low alarm or Low alarm lamp
- High alarm or Low alarm lamp
- Calibration air flow lamp
- Lit when range is 1.0 to 25% between 0 to 1.0% and 0 to 25%
- Lit when range is 0 to 10,000 ppm

**FAIL lamp**

- Lit when range is 0 to 10,000 ppm not when range is 0 to 25%
- Units (% or ppm)

**Lit during 0 to 1000 ppm calibration**

**Lit during 0 to 1000 ppm calibration**

**Entry setting key**

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**Example: Measuring oxygen concentration in welding furnace**

- **Temperature:** Room temperature, atmospheric pressure
- **Gas flow:** 30 N/min. (N₂)
- **Environment:** Oxygen about 500 ppm in N₂
- **Low oxygen concentration in furnace:** safety precautions required
- **OX100** can detect atmospheric air leakage into furnace which causes oxygen to rise to 200 ppm, so can help with welding quality assurance.

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**OX100/OX102**

**OX100/OX102**

**OX100 oxygen analyzer**

**OX102 oxygen analyzer**

**Set-point measurement**

**O₂ concentration**

200 ppm

Air leak

20 mm/hr

**Sensor**

- Sensor: 17 mm (※1) dia. or G3/8
- Sensor plus cable: 5 m (OX100), 5, 10 or 30 m (OX102)

**Sensor holder**

- Sensor holder: 17 mm (※1) dia. or G3/8
- Plastic sensor holder (Specify Option code /J or L9811LA (※1))
OX100 EXTERNAL DIMENSIONS

Convertor

- Panel thickness: 23 mm
- Weight: Approx. 0.6 kg
- Panel cut dimension: 89 x 26.2 x 96 mm
- Min. space for multiple installation: 100 mm

Bracket (Parts: 89877BA)

Sensor

- Panel thickness: 
- Weight: 
- Panel cut dimension: 
- Min. space for multiple installation: 

Unit: mm

OX102 EXTERNAL DIMENSIONS

Convertor

- Panel thickness: 
- Weight: Approx. 1.2 kg
- Panel cut dimension: 
- Min. space for multiple installation: 

Sensor

- Panel thickness: 
- Weight: 
- Min. space for multiple installation: 

Unit: mm

<table>
<thead>
<tr>
<th>Model Code</th>
<th>L (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OX102-11</td>
<td>4</td>
</tr>
<tr>
<td>OX102-12</td>
<td>9</td>
</tr>
<tr>
<td>OX102-13</td>
<td>29</td>
</tr>
</tbody>
</table>
Sampling Unit (K9424GA)

- Membrane filter: removes dust / mist / flux
- Activated charcoal, membrane filter: remove organic solvents
- Flow meter: 0.1 to 1 liters / min.
- Sensor disconnected alarm
- Hi or Lo alarm, sensor disconnected alarm
- Two outputs, rated 110 V AC, 24 V DC, 1 A
- Power supply: 100-240 V AC ±10%, 50/60 Hz, 15 VA

Calibration Kit (K9424AJ, JB)

- Activated charcoal, membrane filter:
- Repeatability: ±2% of span (for 0-1000 ppm range, with O2 being in the range 100 to 1000 ppm).
- Contact output: Two outputs, rated 110 V AC, 24 V DC, 1 A
- Hi or Lo alarm, sensor disconnected alarm
- Two outputs, rated 110 V AC, 24 V DC, 1 A
- Power supply: 100-240 V AC ±10%, 50/60 Hz, 15 VA
- Converter size: 96 x 96 x 190 mm

OX102 Standard Specifications

- Meas. principle: Limiting-current type
- Sampling: Natural diffusion
- Meas. ranges: 0 to 1000 ppm, 0 to 25% (measuring range auto-switching)
- Repeatability: ±5% of span (for 0-1000 ppm range, with O2 being in the range 0 to 100 ppm), ±2% of span (for 0-1000 ppm range, with O2 being in the range 100 to 1000 ppm), ±2% of span (for 0 to 25% range).
- Calibration: 1. Atmospheric pressure calibration (between 15 to 25% O2).
- Analog output: 1. 4-20 mA DC, fixed range (0-100, 0-1000, 0-10000 ppm, 0-25% selectable), or 4-20 mA DC autoranging. 2. 1-5 V DC, fixed range (0-100, 0-1000, 0-10000 ppm, 0-25% selectable).
- Contact output: Two outputs, rated 110 V AC, 24 V DC, 1 A
- Hi or Lo alarm, sensor disconnected alarm
- Sensor disconnected alarm
- Self-diagnostics: Sensor disconnected
- Storage environment: Sensor and converter temperature 0 to 70ºC (dew free)
- Power supply: 100-240 V AC ±10%, 50/60 Hz 15 VA
- Converter size: 96 x 96 x 190 mm

OX100 Standard Specifications

- Meas. principle: Limiting-current type
- Sampling: Natural diffusion
- Meas. ranges: 0 to 500 ppm, 0 to 20% (measuring range auto-switching)
- Repeatability: ±7.5% of reading (Meas. range : 5000-10000 ppm), ±0.3% of reading (Meas. range : 1000-5000 ppm), ±7.5% of reading (Meas. range : 500-1000 ppm), ±0.25% of reading. (Meas. range : 1-2.5%)
- Calibration: 1. Atmospheric pressure calibration (between 15 to 25% O2). 2. 100 ppm calibration (between 80 and 120 ppm)
- Analog output: 1. 4-20 mA DC, fixed range (0-100, 0-1000, 0-10000 ppm, 0-25% selectable), or 4-20 mA DC autoranging. 2. 1-5 V DC, fixed range (0-100, 0-1000, 0-10000 ppm, 0-25% selectable). 3. Zone signal output for 4-20 mA DC autoranging
- Contact output: Two outputs, rated 110 V AC, 24 V DC, 1 A
- Hi or Lo alarm, sensor disconnected alarm
- Sensor disconnected alarm
- Self-diagnostics: Sensor disconnected
- Storage environment: Sensor and converter temperature 0 to 70ºC (dew free)
- Power supply: 100-240 V AC ±10%, 50/60 Hz 15 VA
- Converter size: 96 x 96 x 190 mm

Restrictions

- OX100 measuring principles, measured gas, and system configuration are same as for OX102
- If you want an oxygen (concentration) control range of 1500 to 4500 ppm, select the OX102.

Be sure to read the manual and follow the safety precautions in it.
Synaptic Business Automation creates sustainable value by connecting everything in our customers’ organization. To realize this, Yokogawa integrates its business and domain knowledge with digital automation technologies, and co-innovates with customers to drive their business process transformation.

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### OX102 Limiting-current type Oxygen Analyzer

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Code</th>
<th>Option Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OX102</td>
<td>-</td>
<td>-</td>
<td>Enhanced Oxygen analyzer</td>
</tr>
<tr>
<td>Measuring range</td>
<td>-1</td>
<td>-</td>
<td>0-1000/10000/100,000 ppm / 0-25% O2</td>
</tr>
<tr>
<td>Sensor</td>
<td>1</td>
<td>-</td>
<td>With sensor (5 m; sensor assembly. 1 m + cable 4 m)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-</td>
<td>With sensor (10 m; sensor assembly. 1 m + cable 9 m)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-</td>
<td>With sensor (30 m; sensor assembly. 1 m + cable 29 m)</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>-</td>
<td>Without sensor assembly</td>
</tr>
<tr>
<td>Manual</td>
<td>J</td>
<td>E</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>English</td>
</tr>
<tr>
<td>Option code*</td>
<td>J/S</td>
<td>J</td>
<td>Metal sensor holder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/S</td>
<td>Plastic resin sensor holder</td>
</tr>
</tbody>
</table>

*Standard Product does not have a sensor holder. To get the sensor holder, specify "/S" or "/J". (If using Sampling Unit, the sensor holder is not required.)

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### OX100 Limiting-current type Oxygen Analyzer

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<tr>
<th>Model</th>
<th>Suffix Code</th>
<th>Option Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>OX100</td>
<td>-</td>
<td>-</td>
<td>General purpose Oxygen Analyzer</td>
</tr>
<tr>
<td>Application</td>
<td>-1</td>
<td>-</td>
<td>Oxygen Analyzer (Can’t use an activated carbon filter)*1</td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>-</td>
<td>For (N2) reflow furnace (Specify in case of using an activated carbon filter)*1</td>
</tr>
<tr>
<td></td>
<td>-3</td>
<td>-</td>
<td>Monitoring for deficiency of Oxygen with low alarm, Measuring range 0-25%</td>
</tr>
<tr>
<td>Measuring Range</td>
<td>1</td>
<td>-</td>
<td>0-1000 ppm / 0-25% O2</td>
</tr>
<tr>
<td>Power supply</td>
<td>5</td>
<td>-</td>
<td>100 V AC ±10%, 50/60 Hz</td>
</tr>
<tr>
<td>Sensor</td>
<td>1</td>
<td>-</td>
<td>Sensor assy. cable 3 m + extension 2 m</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>-</td>
<td>Without sensor assembly</td>
</tr>
<tr>
<td>Manual</td>
<td>J</td>
<td>E</td>
<td>Japanese</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>English</td>
</tr>
</tbody>
</table>

*For measurement in the range of 1500 to 4500 ppm, use the OX102.

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### Sampling unit, Calibration kit

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>K9424GA</td>
<td>Sampling unit</td>
</tr>
<tr>
<td>K9424JA</td>
<td>Calibration kit: Six 1-liter gas cylinder, gas outlet cock (with flow adjuster)</td>
</tr>
<tr>
<td>K9424JB</td>
<td>Calibration kit: Six 1-liter gas cylinder, gas outlet cock (without flow adjuster)</td>
</tr>
</tbody>
</table>

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### Accessories

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>K9424GY</td>
<td>Activated charcoal element, five per pack: for sampling unit</td>
</tr>
<tr>
<td>K9424JC</td>
<td>Gas outlet cock (with flow adjuster): qty. one</td>
</tr>
<tr>
<td>K9424JQ</td>
<td>Gas outlet cock (without flow adjuster): qty. one</td>
</tr>
<tr>
<td>K9424JP</td>
<td>Standard gas cylinder (1000 ppm O2/N2): qty. six</td>
</tr>
<tr>
<td>K9424BA</td>
<td>Sensor assy. cable 3 m for OX100 only</td>
</tr>
<tr>
<td>K9424CA</td>
<td>Extension cable, 2 m: for OX100 only</td>
</tr>
<tr>
<td>B9877BA</td>
<td>Extension cable, 3 m: for OX100 only</td>
</tr>
<tr>
<td>B9877LA</td>
<td>Extension cable, 4 m: for OX100 only</td>
</tr>
<tr>
<td>K9424LA</td>
<td>Standard gas cylinder (1000 ppm O2/N2): qty. six</td>
</tr>
<tr>
<td>K9424LB</td>
<td>Extension cable, 9 m: for OX100 only</td>
</tr>
<tr>
<td>K9424LD</td>
<td>Extension cable, 29 m: for OX100 only</td>
</tr>
<tr>
<td>K9424DB</td>
<td>Sensor holder (metal) for OX100 or OX102</td>
</tr>
<tr>
<td>L9811LA</td>
<td>Sensor holder (plastic) for OX100 or OX102</td>
</tr>
</tbody>
</table>

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